MassDEP / UMass – Amherst

Assistance Program for Lead in School Drinking Water

Informational Meeting

(version 7/1/17)

Topics to be Covered Today

- General information about Lead and Copper in drinking water
- How to establish a Lead and Copper in drinking water sampling program
- Developing and implementing a sampling plan
- Communicating results to your community
- Remediation – Taking corrective action(s)
- Q&A and Contacts for More Information
- All materials discussed can be found:

  http://www.mass.gov/eea/agencies/massdep/water/drinking/testing-assistance-for-lead-in-school-drinking-water.html

What to expect from your participation in the program

- Learn how to establish and implement a lead and copper drinking water program
  - Identify fixtures to be sampled
  - Create a sampling plan
  - Collect samples
- Free lab services for one round of sampling
- Advice on communicating sample results
- Offer remediation suggestions on fixtures with elevated levels

Assistance Program for Lead in School Drinking Water

- Launched by Governor Baker and Treasurer Goldberg
- Goal is to provide technical assistance and laboratory analysis services to assess lead and copper in drinking water at public schools and public early education & child care facilities
- Based on the voluntary Lead Contamination Control Act (LCCA)
- Funding from the MA Clean Water Trust
- Implemented by MassDEP in partnership with the University of Massachusetts - Amherst

Lead exposure overview

- Possible Health Effects of Lead include brain, kidney and nervous system impacts – especially in infants & children
  - Most exposure from paint and soil, but DW can be an important source
  - Lead action level: 15 parts per billion
- Exposure may occur when ingesting water passing through lead pipes
  - Lead is not easily absorbed through contact
  - Lead found at fixtures beyond the standards does not mean that a child has elevated blood levels. Other factors include age, nutritional status, and other sources of lead in their environment
- More info:
  - http://www.mass.gov/eohhs/docs/dph/environmental/lead/lead-school-drinking-water-faq.pdf

Copper exposure overview

- Possible Health Effects of Copper include nausea, vomiting and diarrhea (and risks for some infants and those with Wilson's disease)
- Copper action level: 1,300 ppb
- Exposure may occur when ingesting water passing through copper parts in the pipes
- Copper is not easily absorbed through contact
- Copper found at fixtures beyond the standards does not mean that a child has elevated blood levels. Other factors include age, nutritional status, and other sources of lead in their environment
- More info:
  - http://www.mass.gov/eohhs/docs/dph/environmental/exposure/copper-school-drinking-water-faq.pdf

Key Partners for School Districts

- Superintendent, Principals, Facilities Personnel, School Nurses, PTA/School Committee
- Public Water System
- Chief Elected Officials
- Local Board of Health
- Local Plumbing Inspectors
- UMass-Amherst Technical Assistance Team
- MassDEP
- Mass Department of Public Health

Outreach to the Community

- Be proactive, let your community know:
  - You are participating in the program
  - Before sampling occurs
  - After sampling occurs
- Once you have received your results
  - Notify the community immediately
    - Include results and any short-term and long-term next steps
    - Template letters and other assistance will be provided to you
- Follow-up on a regular basis
  - At least annually, more frequently if you are working on remediation

What do you need to do?

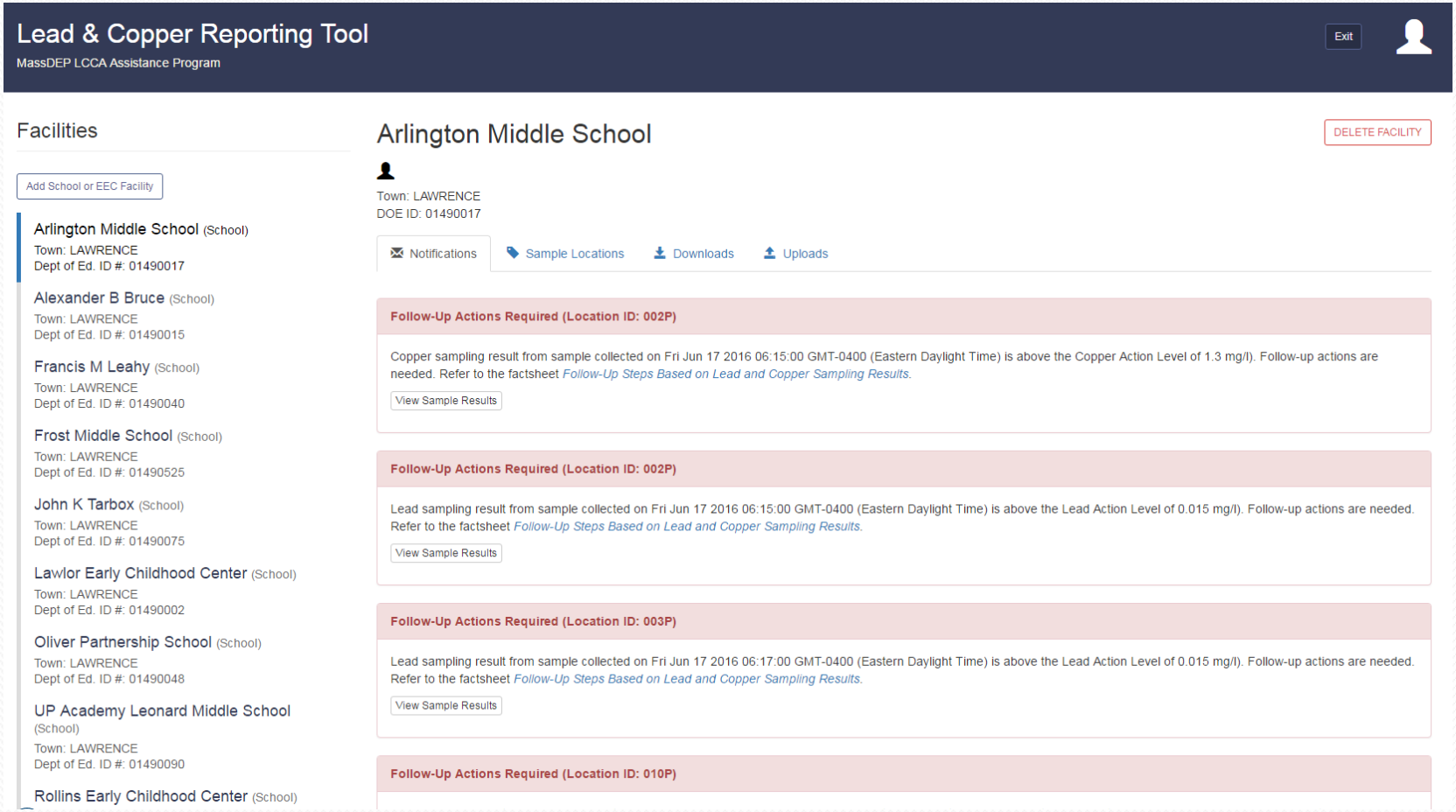
- Log into the Reporting Tool
- Obtain a blank sampling plan for each school
- Obtain a map of each school
- Complete a sampling plan using a map (labeling fixtures in the map as you develop plan) during a school walk through
- Enter sampling plan into Reporting Tool
- Participate in sampling
- Communicate program and results to community
- Take remediation actions as necessary

Lead & Copper Reporting Tool

- A web-based online application where you can:
  - keep track of your facilities' sampling locations;
  - view sampling results;
  - report remediation actions taken;
  - download forms (chain of custody, bottle labels file, sampling plan);
  - and upload documents.

It is important that you report any remediation actions taken in the Reporting Tool so that they are posted along with the results.

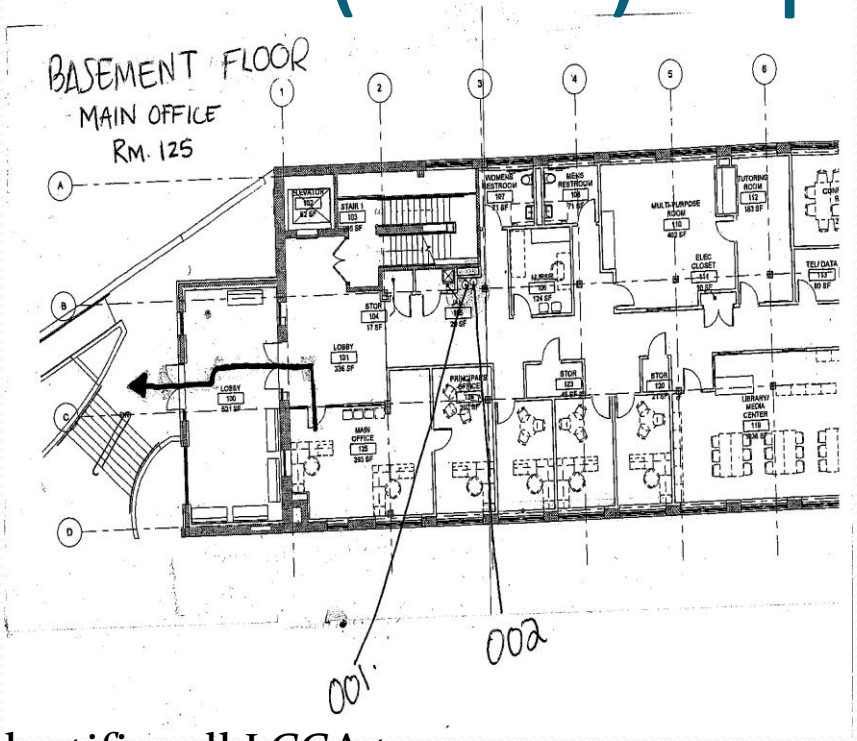
Lead & Copper Reporting Tool



Map of Taps to be Sampled

- LCCA Taps = all taps/faucets/fixtures used for drinking water and food/beverage preparation (includes ice machines).
- Each LCCA Tap is given a Location Code assigned sequentially starting with the location closest to where the water enters the facility and moving outward.
- Bathroom and classroom sinks do not need to be identified as an LCCA Tap **IF** posted with a "For Hand Washing Only" sign.
  - <u>If you choose to sample these taps, any elevated results will also be made public</u>
- Upload "completed" map on Reporting Tool.

Map of Lead Contamination Control Act (LCCA) Taps



- The LCCA Map identifies all LCCA taps.
- All LCCA Taps identified on the Map should be physically labeled with the Location Code.

What to Sample

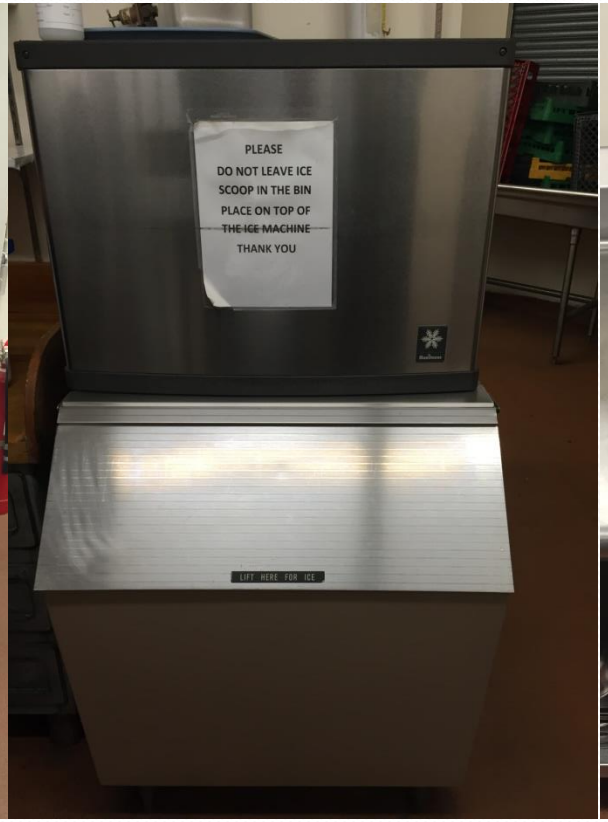
- Drinking Water Sites & Food Preparation Sites

Drinking Water Bubbler

Water Cooler

What to Sample continued

Kitchen Kettle



Ice Machine

Food Preparation Sink

What to Sample continued

Classroom Sink

Nurse's Office Sink

Teacher's Lounge Sink

What **Not** to Sample

Custodial Washing Sinks

Bathroom Sinks (If posted, "For Hand Washing Only")

Lab/Art Room sinks

Sampling Plan

- Location Code – Corresponds with Location Code on Map of LCCA Taps and on Chain of Custody form and must follow a 3 digit format, e.g. 001, 002, 003, …etc
- Location Type – Identifies the type of tap being sampled

  Use the Following Standardized Location Types:

  DW = Drinking Water Bubbler
  WC = Water Cooler (chiller unit)
  CF = Classroom Faucet
  KC = Kitchen Faucet, cold
  KK = Kitchen Kettle, *[designate cold or hot in Location Name]*
  KI = Kitchen Ice Maker
  EC = Home Economics Room, cold
  BF = Bathroom Faucet, *[designate cold or hot in Location Name]*
  NS = Nurse's Office Sink, *[designate cold or hot in Location Name]*
  SC = Service Connector
  OT = Other location (fully describe in Location Name)

- Location Name (ex. Fountain at Front Door) must be legible and direct

  If re-sampling is needed it is important to be able to match location names with actual locations
- Review your Sampling Plan with the UMass-Amherst Technical Assistance Team

Sampling Plan

Sampling Plan for LCCA Taps at: ORG CODE: 999999999 SCHOOL NAME: Your School Name

DATE: 6/1/2017 STREET ADDRESS: 1 Main St CONTACT NAME: John Doe

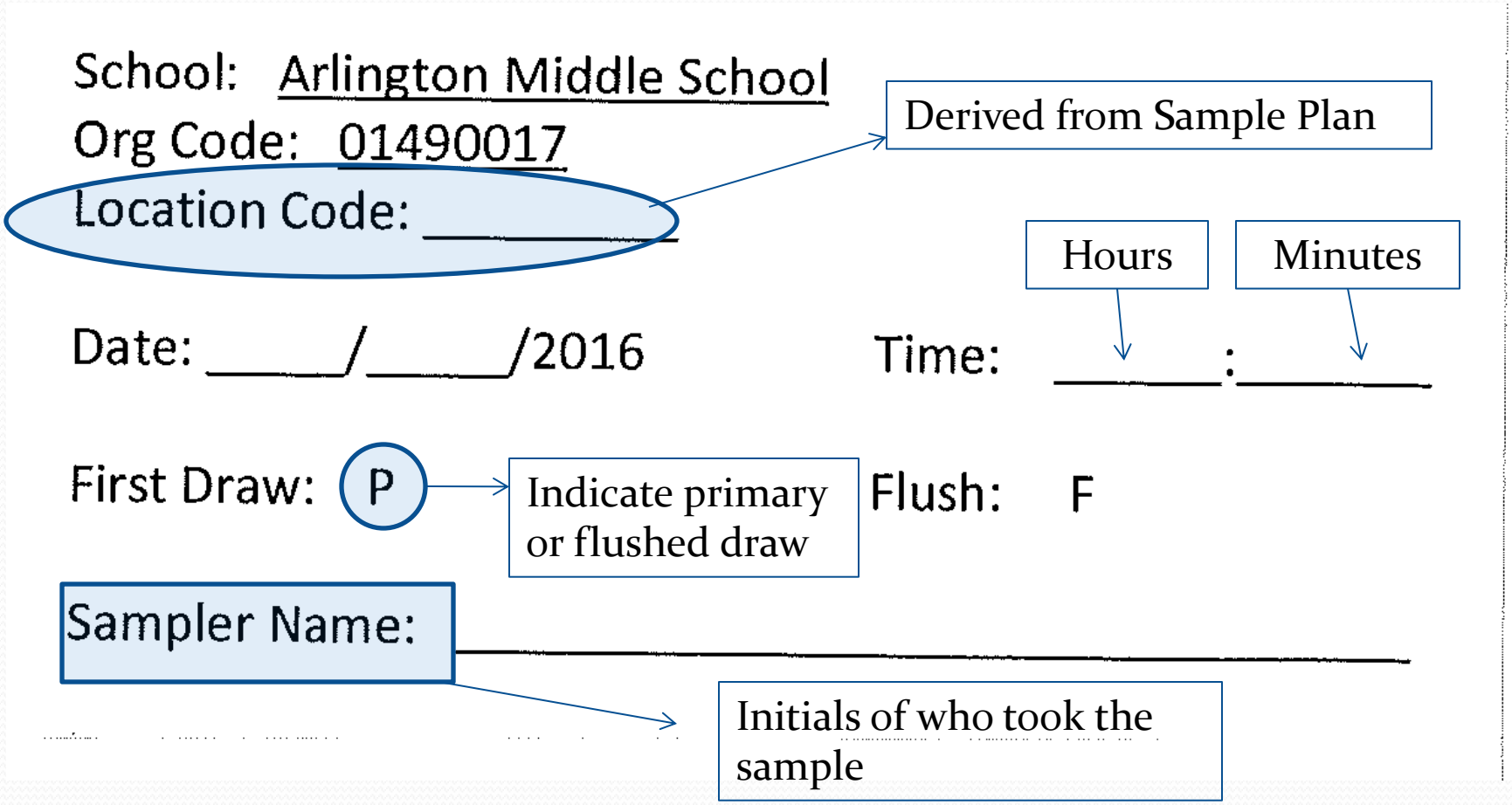
Location Code#	Location Type	Location Name	Comments	
001	DW	Bubbler at Front Door		
002	KK	Kitchen Kettle		
003	NS	Sink in Nurse's office		
004	CF	Classroom Sink Room 102		
005				
006				
007				
008				
009				
010				
011				
012				
013				
014				
015				
016				
017				
018				
019				

Page ___ of ___

Sampling Guidance

- Must be representative of actual conditions:
  - Taps being sampled should be inactive for 8 to 18 hours.
  - Do not sample after any day when the facility was not in use (e.g. weekends, holidays or vacations since water will be stagnant too long).
- First Draw – Focuses on whether fixture itself (or immediately adjacent plumbing connected to the fixture) is a contributing factor to elevated lead or copper concentrations.
- Second Draw (30 Second Flush)–Focuses on whether the source of elevated lead or copper concentrations is nearby in the plumbing system.
  - For this Program - Do not clean screens/aerators before second draw.

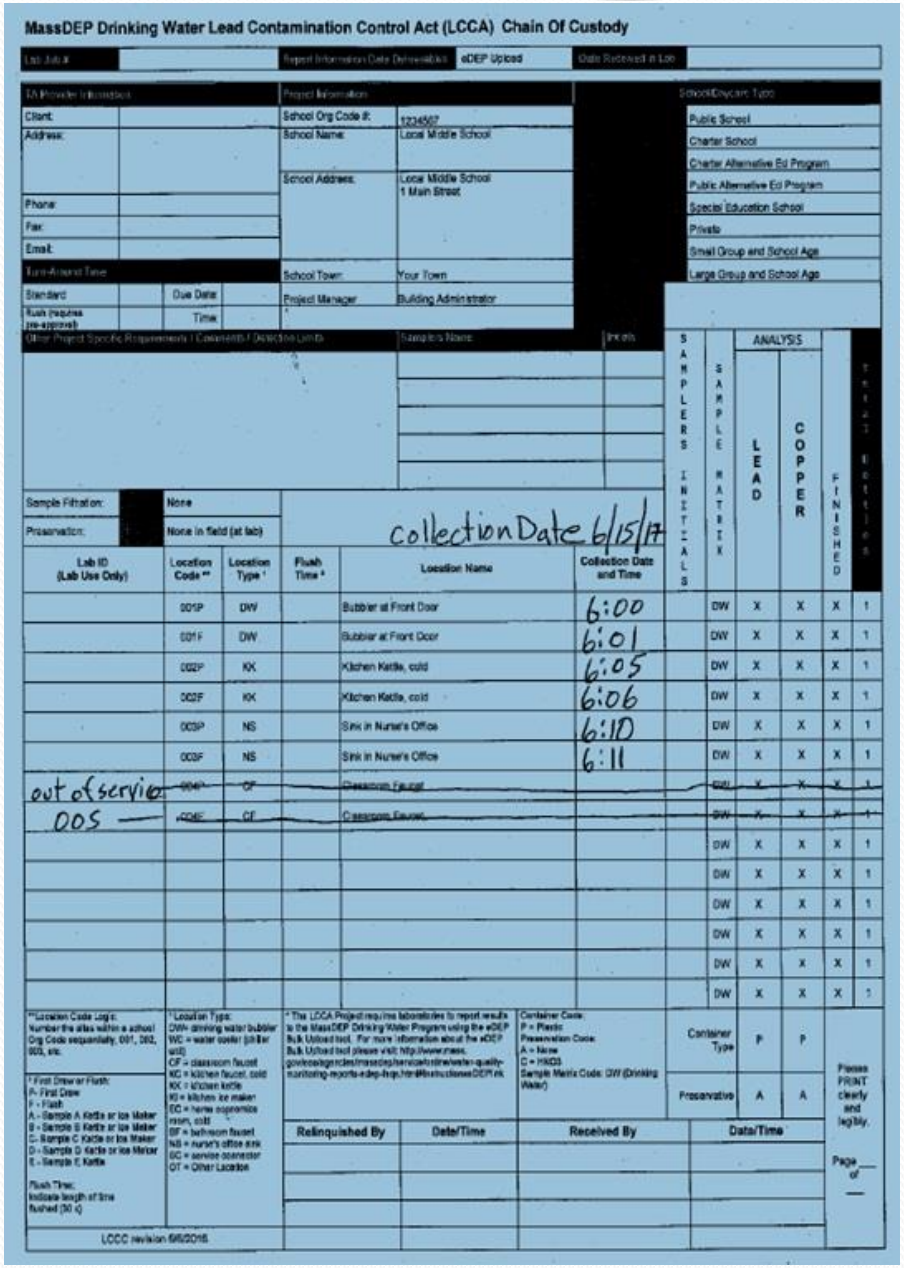
Labeling Samples



Chain of Custody

- Use Reporting Tool to create Chain of Custody (CoC).
- Tracks who has possession of the sample from collection through delivery to the lab.
- Location Code corresponds with Map of LCCA Taps and Sampling Plan.
- The Location Code must have a P or F after it to identify if the sample was Primary (first) or Flushed (second) draw.
- **All information on the Sample Label and the CoC form must be the same.**
- Upload completed and signed copy of CoC to Reporting Tool.

Chain of Custody



MassDEP Drinking Water Lead Contamination Control Act (LCCA) Chain Of Custody

Lab Job #: | Report Information Date Deliverables: eDEP Upload | Date Received at Lab:

LA Provider Information

Client:
Address:
Phone:
Fax:
Email:

Project Information

School Org Code if: 1234567
School Name: Local Middle School
School Address: Local Middle School, 1 Main Street
School Town: Your Town
Project Manager: Building Administrator

School/Daycare Type:

- Public School
- Charter School
- Charter Alternative Ed Program
- Public Alternative Ed Program
- Special Education School
- Private
- Small Group and School Age
- Large Group and School Age

Turn-Around Time

Standard | Due Date:
Rush (requires pre-approval) | Time:

Other Project Specific Requirements / Contaminants / Detection Limits | Sample's Name | Initials

Sample Filtration: None
Preservation: None in field (at lab)

collection Date 6/15/17

Lab ID (Lab Use Only)	Location Code **	Location Type *	Flush Time *	Location Name	Collection Date and Time	SAMPLERS INITIALS	SAMPLE MATRIX	ANALYSIS: LEAD	ANALYSIS: COPPER	FINISHED	TOTAL # BOTTLES
	001P	DW		Bubbler at Front Door	6:00		DW	X	X	X	1
	001F	DW		Bubbler at Front Door	6:01		DW	X	X	X	1
	002P	KK		Kitchen Kettle, cold	6:05		DW	X	X	X	1
	002F	KK		Kitchen Kettle, cold	6:06		DW	X	X	X	1
	003P	NS		Sink in Nurse's Office	6:10		DW	X	X	X	1
	003F	NS		Sink in Nurse's Office	6:11		DW	X	X	X	1
out of service 005	~~004P~~	~~CF~~		~~Classroom Faucet~~			~~DW~~	~~X~~	~~X~~	~~X~~	~~1~~
	~~004F~~	~~CF~~		~~Classroom Faucet~~			~~DW~~	~~X~~	~~X~~	~~X~~	~~1~~
							DW	X	X	X	1
							DW	X	X	X	1
							DW	X	X	X	1
							DW	X	X	X	1
							DW	X	X	X	1
							DW	X	X	X	1

Container Type: P | P
Preservative: A | A

** Location Code Logic: Number the sites within a school Org Code sequentially: 001, 002, 003, etc.

* First Draw or Flush:
F - First Draw
F - Flush
A - Sample A Kettle or Ice Maker
B - Sample B Kettle or Ice Maker
C - Sample C Kettle or Ice Maker
D - Sample D Kettle or Ice Maker
E - Sample E Kettle

Flush Time: Indicate length of time flushed (30 s)

* Location Type: DW= drinking water bubbler, WC = water cooler (chiller unit), CF = classroom faucet, KC = kitchen faucet, cold, KK = kitchen kettle, KI = kitchen ice maker, EC = nurse ergonomic room, cold, BF = bathroom faucet, NS = nurse's office sink, SC = service connector, OT = Other Location

* The LCCA Project requires laboratories to report results to the MassDEP Drinking Water Program using the eDEP Bulk Upload tool. For more information about the eDEP Bulk Upload tool please visit: http://www.mass.gov/eea/agencies/massdep/service/drinking-water-quality-monitoring-reports-edep-bup.html#instructionsDEP.mk

Container Code: P = Plastic
Preservation Code: A = None, O = HNO3
Sample Matrix Code: DW (Drinking Water)

Relinquished By	Date/Time	Received By	Date/Time

Please PRINT clearly and legibly.

Page ___ of ___

LCCC revision 6/6/2016

Lead & Copper Sampling Results

- The Department of Public Health may email the school with health information
- All sampling results in eDEP will be posted on the MassDEP website two weeks from the date the results are submitted to eDEP.
- All sampling results will also appear in the MassDEP electronic Lead and Copper Reporting Tool. (Tool)
- You may add your follow-up actions for each result over the Action Level to the Tool.

It is important that you report any remediation actions taken on the Tool so that they can be posted along with the results.

Steps To Take if Sampling Results Exceed the Action Level(s)

- Immediate Measures
  - Shut Off Problem Fixtures
  - Implement a Flushing Program (if flush samples are clean or supported by new sampling - track via Manual Flushing Log)
- Contact UMass for technical assistance
- Conduct Outreach to Staff and Parents
  - **Transparency is critical** – See next slide
- Determine if the source of the contamination is the fixture or the plumbing
  - Follow-up Sampling
- Develop Plan of Permanent Measures
- Report remedial actions taken on the MassDEP online Lead and Copper Reporting Tool

Communications on Sampling Results

- Notify consumers immediately
  - Include results and short-term and long-term next steps (as applicable)
  - Utilize letters and other outreach mechanisms (website, Twitter, etc.)
  - Explore engagement from local health officials
- Tools to assist you
  - Template outreach letters from MassDEP
  - Fact Sheet(s) on Lead and Copper in Schools from Mass Department of Public Health (DPH)
  - DPH may send follow-up email to each school & local health director

After the Assistance Program

- Implement All Remediation Measures (as applicable)
- Follow the MassDEP Lead and Copper in School Drinking Water Program
- Sample All School Fixtures at Least Once Every Three Years (e.g. One-Third Each Year)
- Keep Sampling Plan Up-To-Date
- Update the Reporting Tool as necessary

Questions?

For More Information

UMass–Amherst Technical Assistance Team:

413-545-0840

lccadep@umass.edu

MassDEP Drinking Water Program:

617-292-5770

Program.Director-DWP@state.ma.us

MassDEP Website:

http://www.mass.gov/eea/agencies/massdep/water/drinking/testing-assistance-for-lead-in-school-drinking-water.html